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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary

Application No.

10/595,060

Applicant(s)

HINTZE-BRUENING ET AL.

Examiner

AMJAD ABRAHAM

Art Unit

1791

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 12 October 2009.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1, 4, 5 and 7-25 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1, 4, 5 and 7-25 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 02 April 2009 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB-06)
Paper No(s)/Mail Date _____

- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Applicant's remarks and amendments, filed October 12, 2009 have been carefully considered. Claims 1 and 20-22 are currently amended. Claims 2-3 and 6 have been canceled. Claims 23-25 have been added as new claims. Therefore claims 1, 4-5, and 7-25 are now pending.

Grounds of Rejection maintained from previous office action dated July 10, 2009

Claim Rejections - 35 USC § 112

1. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

1. Claims 1-25 are rejected under 35 U.S.C. 112, first paragraph, because the specification, while being enabling for GH-X 527, does not reasonably provide enablement for the protective sheet and the ranges claimed for the physical characteristics in claim 1. The specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the invention commensurate in scope with these claims. **Applicant's specification fails to enable one having the ordinary skill in the art to make and use the protective sheet (S) claimed in claims 1-22.** There are many factors to be considered when determining whether there is sufficient evidence to support a determination that a

disclosure does not satisfy the enablement requirement and whether any necessary experimentation is "undue." These factors include, but are not limited to: (A) The breadth of the claims; (B) The nature of the invention; (C) The state of the prior art; (D) The level of one of ordinary skill; (E) The level of predictability in the art; (F) The amount of direction provided by the inventor; (G) The existence of working examples; and (H) The quantity of experimentation needed to make or use the invention based on the content of the disclosure. *In re wands*, 858 F.2d 731, 737, 8 USPQ2d 1400, 1404 (Fed Cir. 1988).

a. *It is examiner's position that the claims as written are not enabled by the accompanying disclosure. As applicant has only given one example of said protective sheet as stated in Table 1. The only example is identified only by the trademark name of GHX-527 and there is no disclosure drawn to the ingredients of this material.*

b. **In claim 1, applicant recites a feature of the invention that is critical to the invention performing its intended operation. This feature is the use of a protective sheet when molding a multi-functional polymer molding. Applicant has claimed this protective sheet by claiming only the key properties of the resultant protective sheet. The process for making such a protective sheet is missing from applicant's disclosure. One having the ordinary skill in the art at the time of the invention would have to run a wide spectrum of experiments in order to create a protective sheet with the 5 key properties claimed by applicant. In this case, any conceivable combination**

of ingredients either presently existing or which may be discovered can have the properties as claimed by applicant. Essentially, the applicant is trying to claim more than what has been disclosed.

c. Furthermore, the only working examples of the protective sheet provided by the applicant are shown by trade names or trademarks. Page 20 (lines 2-3) of applicant's specification disclose that the protective sheet used in the working example is GH-X 527 from Bischof + Klein, Lengerich. However, this disclosure is insufficient as the use of a trade name or trademark only identifies the source of the product and not its formula or characteristics. The relationship between a trademark and the product it

identifies is sometimes indefinite, uncertain, and arbitrary. The formula or characteristics of the product may change from time to time and yet it may continue to be sold under the same trademark. In patent specifications, every element or ingredient of the product should be set forth in positive, exact, intelligible language, so that there will be no uncertainty as to what is meant. Arbitrary trademarks which are liable to mean different things at the pleasure of manufacturers do not constitute such language. *Ex Parte Kattwinkle*, 12 USPQ 11 (Bd. App. 1931).

d. Breadth of Claim

i. As applicant has only claimed a product by its physical characteristics, because of this, one having the ordinary skill in the art would have to undertake undue experimentation because the invention as

claimed leaves open the possibility that any combination of materials may contain the claimed characteristics. As this claim is overly broad, it would not lead one having the ordinary skill in the art to make and use the claimed invention.

e. **The amount of direction provided by the inventor:**

ii. The inventor's only disclosure that would lead one to make and use the invention is that Bischoff and Klein sells the product under the trade name GH-X 527. The inventor also discloses that the sheet can be made of polyolefin homopolymers or copolymers, such as polyethylene and polypropylene. However, this disclosure would still invite undue experimentation because it is well known that there are endless numbers of materials which are polyolefin based with infinite combinations of physical characteristics.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the

Art Unit: 1791

invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148

USPQ 459 (1966), that are applied for establishing a background for determining

obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

4. Claims 1, 4-5, 7-8, and 12-21 rejected under 35 U.S.C. 103(a) as being unpatentable over Koniger et al. (WIPO International Publication WO 00/63015, made of record by the applicant, whose English equivalent is Koniger et al. (USP No. 6,777,089 B1)—Applicant has admitted that WO 00/63015 is applicant's admitted prior art and thus well known in the art [therefore steps 1-5 are clearly anticipated by applicant's admission and WO 00/63015]) in view of APA (Applicant's Admitted Prior Art - See Prior Art Section of Applicant's disclosure) in further view of Schoeppel (US Pre-Grant Publication 2004/0042379 A1).

- f. In claim 1, Koniger teaches a process for producing polymer moldings (M/T/B) with functional surfaces (O) for which (I) a coating (B) is produced on a thermoplastic support sheet (T) by a process comprising (I.1) coating one surface (T.1) of (T) with at least one pigmented coating material (B.1) **(See column 4 line 45 to column 5 line 45, disclosing the addition of a coloring layer (pigment) to the substrate (support sheet.)** and (I.2) coating the resulting film (B.1) with at least one chemically curable coating material (B.2) **(See column 4**

line 45 to column 5 line 45, disclosing the addition of an outer layer which is radiation curable. Also see column 1, lines 50-67 disclosing the addition of an outer layer that is radiation curable.) to give the film (B.2) following its curing a transparent coating (B.2) **(See Column 5 lines 32-35, disclosing that the outer layer is transparent.)**, (II) inserting the resulting coated thermoplastic support sheet (I/B) into an open mold, (III) closing the mold and contacting the uncoated side (T.2) of the coated thermoplastic support sheet (I/B) with a liquid polymeric material (M) to shape the coated thermoplastic support sheet (T/B) and join it firmly to the polymeric material (M), and causing the polymeric material (M) to solidify **(See claim 11 and column 6 lines 61-67, disclosing the injection-back molding of a polymer composition to the substrate sheet.)**, and (IV) removing from the mold **(Inherently the sheet is removed from the mold after the addition of the polymer back molding.)**, the resulting coated polymer molding (M/T/B), whose coating (B) is uncured, part-cured or full-cured; where (V) fully curing in or after at least one of step (I) step (III) or step (IV) the uncured or part-cured coating (B) or after step (IV) the full-cured coating (B) is after cured; the coating (B) being covered at least temporarily with a protective sheet (S) **(See column 5, lines 33-38, disclosing covering the sheet with a protective layer. This protective sheet allows the curing process to be delayed.)**,

- iii. Koniger further teaches wherein

(1) The functionality of the surface (O) of the polymer molding imparts at least a color and an effect. (See column 1 lines 35-40 and column 5 lines 16-19).

(2) The polymer moldings are designed for use in forming shaped articles such as automobile components. (See column 7 lines 20-33).

g. With respect to claim 1, Koniger does not teach: wherein the film (b2) is fully or partly cured by UV radiation after step (1) but before step (2); wherein the protective sheet (S) has (s.1) a storage modulus E' of 10^7 — 10^8 Pa in the temperature range from room temperature to 100.degree. C., (s.2) an elongation at break from 400-900% at 23.degree. C. longitudinally and transversely to the preferential direction produced by means of directed production processes in the production of (S), (s.3) a transmittance >70% for UV radiation and visible light with a wavelength of from 230 to 600 nm for a film thickness of 50 micrometers and wherein the coating (B)-facing side (S.1) of the protective sheet (S) has (s.1.1) a hardness <0.06 GPa at 23.degree. C. and (s.1.2) a roughness corresponding to an R^a from 50 micrometers² <30 nm as determined by means of atomic force microscopy (AFM).

h. However, APA teaches wherein after the end of step 1 the coating B is cured. (See page 1 line 10 to page 2 line 27 of applicant's specification).

- iv. It would have been obvious to cure the coated sheet produced in step I in order to allow this intermediate product to be stored for long periods of time prior to further treatment.
- i. Moreover, applicant states that the claimed protective sheet can be selected from the group of films consisting of polyethylene, polypropylene, ethylene copolymer, propylene copolymers, and ethylene-propylene copolymers (See applicant's specification—page 16, lines 10-14). Furthermore, applicant has stated that "the protective sheets for inventive use are conventional." (See page 17, line 9). Essentially, applicant has disclosed the use of a well known conventional plastic as a protective sheet. Koniger also discloses the use of a polyethylene protective sheet. Therefore, it would have been obvious to one having the ordinary skill in the art to select a known protective film such as GH-X 527 for the benefit of using the film as a releasable protective sheet that can be removed from a polymer molding.
- j. Additionally, Schoepel further teaches that GH-X series releasable protective sheet are known in the art to be used in application in which a protective sheet can be applied and removed at a subsequent time period. (See paragraph 0132 and 0078).
- k. It would have been obvious to one having the ordinary skill in the art to alter the teachings of Koniger to include the teachings of Schoepel since it is well known in the art that GHX series protective sheets are useable as protective

films and are among those films that one having the ordinary skill in the art would look to in finding the most effective protective sheet.

2. In claim 4, Koniger does not teach: wherein the coating (B)-facing side (S.1) of the protective sheet (S) (s.1.1) has a hardness <0.02 GPa.

l. However, applicant states that the claimed protective sheet can be selected from the group of films consisting of polyethylene, polypropylene, ethylene copolymer, propylene copolymers, and ethylene-propylene copolymers (See applicant's specification—page 16, lines 10-14). Furthermore, applicant has stated that "the protective sheets for inventive use are conventional." (See page 17, line 9). Essentially, applicant has disclosed the use of a well known conventional plastic as a protective sheet. Koniger also discloses the use of a polyethylene protective sheet. Therefore, it would have been obvious to one having the ordinary skill in the art to select a known protective film such as GH-X 527 for the benefit of using the film as a releasable protective sheet that can be removed from a polymer molding.

m. In the alternative, Schoepel further teaches that GH-X series releasable protective sheet are known in the art to be used in application in which a protective sheet can be applied and removed at a subsequent time period. **(See paragraph 0132 and 0078).**

n. It would have been obvious to one having the ordinary skill in the art to alter the teachings of Koniger to include the teachings of Schoepel since it is well known in the art that GHX series protective sheets are useable as protective

films and are among those films that one having the ordinary skill in the art would look to in finding the most effective protective sheet.

3. In claim 5, Koniger remains applied to claim 1 above, Koniger does not explicitly teach wherein the removal of the protective sheet (S) from the coating (B) requires an averaged force <250 mN/cm. **(See column 5, lines 35-38-- disclosing the fact that the protective layer (sheet) may be removed prior to curing.)**

o. Here, it would have been obvious to one having ordinary skill in the art at the time of invention to adjust the force required to remove the protective sheet for the intended application, since it has been held that discovering the optimum value of a result effective variable involves only routine skill in the art. *In re Boesch*, 617F.2d 272, 205 USPQ 215 (CCPA 1980).

4. In claim 7, Koniger teaches wherein the side of the protective sheet has adhesive properties. **(See column 5, lines 32-38—disclosing that the protective sheet is a removable film. This removable film is applied to the protective layer and must inherently have some adhesive quality. Inherently, the protective layer must have adhesive properties in order to stick and later be removed from the outer layer.)**

5. In claim 8, Koniger does not expressly teach wherein the side of the protective sheet (S) that faces away from the coating has antiblocking properties. **(Column 6, lines 33-37—discloses that the outer layer is blocking resistant (i.e. does not adhere).)**

p. This is done so the sheet can be rolled up and stored. In Koniger, the protective sheet provides the same function as the outer layer as the sheet is not

adhesive. It would have been obvious to one having the ordinary skill in the art to alter the teachings of Koniger by making the protective sheet's outer layer antiblocking so that the sheets can be stacked or rolled up. Essentially the protective sheet or the antiblocking outer layer is interchangeable because they serve the same function.

6. In claim 12, Koniger teaches wherein the thickness of the protective sheet (S) is from 10 to 100 μm . **(See column 5, lines 34-37—disclosing that the protective sheet is between 50 and 100 μm .)**
7. In claim 13, Koniger teaches wherein the protective sheet (S) is applied to the coating (B) after step (I). **(See column 5, lines 33-37-- disclosing that the protective sheet is applied to the outer layer which comprises of the coating.)**
8. In claims 14-16, Koniger does not expressly teach: (claim 14) wherein the protective sheet (S) is removed from the coating (B) of the coated, thermoplastic, protective-sheet (S)-covered support sheet (T/B/S) immediately before step (II); (claim 15), wherein the protective sheet (S) is removed from the coating (B) of the protective sheet (S)-covered polymer molding (M/T/B/S) after step (IV); and (claim 16) wherein the protective sheet (S) is removed from the coating (B) at least one of before or after the coating (B) has been fully cured or before or after the ding (M/T/B) has been after treated. **(See column 5, lines 33-37-- disclosing that the protective sheet is applied to the outer layer which comprises of the coating. Also the purpose of the protective layer is to prevent unintended curing.)**

- q. Essentially, Koniger discloses that the use of the protective sheet is to protect the outer layer from unintended curing. It is well-known in many arts that when unintended curing presents a problem, for example, to polymer moldings, a protective layer should be added to said polymer molding in order to delay curing. This inference of obviousness would have been drawn from creative steps that a person of ordinary skill in that art would normally employ to optimize a polymer molding process. Time delays between the steps delineated in claim 1 would have prompted one having the ordinary skill in the art to gather the best time to remove the protective sheet from the polymer molding. It would have been obvious to use the known step of removing the protective film to control the extent of curing on the polymer moldings.
9. In claim 17, Koniger teaches wherein the thermoplastic support sheet (T) has a film thickness ≥ 0.5 mm. **(See column 4, lines 64-65—disclosing that the substrate layer thickness is between 50 μ M to 5mm.)**
10. In claim 18, Koniger teaches wherein the coated thermoplastic support sheets (I/B) or the cut-to-size pieces thereof are preformed prior to step (II). **(See column 7 lines 4-7 and lines 59-63—disclosing that there is a thermoforming process prior to molding of back layer.)**
11. In claim 19, Koniger teaches wherein the coated thermoplastic support sheets (T/B) or the cut-to-size pieces thereof are adapted to the contours of the molds. **(See claim 11, disclosing that the resultant film made in step 1 is molded in a**

thermoforming operation. Inherently, the sheets will adapt to the contours of the mold.)

12. In claim 20, Koniger teaches wherein the functionality of the surface (O) of the polymer moldings (M/T/B) is one which imparts at least one of color, effect electroconductivity, magnetic shielding, inhibition of corrosion, fluorescence or phosphorescence. **(See column 5, lines 1-31, disclosing that the resultant product imparts color onto the molding as the outer layer is transparent and the coloring interlayer shows through the product.)**

13. In claim 21 Koniger teaches at least one of means of transport, constructions, windows, doors, furniture, and utility articles comprising the polymer moldings produced by the process of claim 1. **(See column 7, lines 20-33, disclosing that the films can be used for many applications such as doors.)**

5. Claims 9-11 and 22-25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Koniger et al. (WIPO International Publication WO 00/63015, made of record by the applicant, whose English equivalent is Koniger et al. (USP No. 6,777,089 B1)—Applicant has admitted that WO 00/63015 is applicant's admitted prior art and thus well known in the art [therefore steps 1-5 are clearly anticipated by applicant's admission and WO 00/63015]) in view of APA (Applicant's Admitted Prior Art - See Prior Art Section of Applicant's disclosure) in further view of Schoeppel (US Pre-

Grant Publication 2004/0042379 A1) and in further view of Otaki et al. (USP No. 6,509,076).

14. In claim 9, Koniger does not explicitly teach wherein the protective sheet (S) is constructed from a plurality of layers.

r. However, Otaki discloses wherein the protective sheet (S) is constructed from a plurality of layers. **(See column 10 line 36 to column 11 line 30, disclosing example 1 which discloses that the protective film (part number 6 in figure 1) has multiple layers. More specifically the protective film has an adhesive layer and a release layer (antiblocking layer).)**

s. Koniger and Otaki are analogous art because they solve the similar problem of protecting a laminate sheet from post processing harm by adding a protective sheet to the outer layer. At the time of invention, it would have been obvious to the applicant being one of ordinary skill in the art, having the teachings of Koniger and Otaki before him or her, to modify the teachings of Koniger to include the teachings of Otaki for the benefit of creating a protective layer that is capable of bonding to the outer layer of the laminate sheet any preventing any unwanted curing/damage on the outer surface. **(See Column 1, lines 25-30—disclosing that the multi layer laminate (hologram) has many defects when they are stacked or pressed on top of one another during storage.)** The motivation for doing so would have been to delay the defects by adding a protective layer that comes off prior to use. Therefore, it would have been obvious to combine Koniger and Otaki to make a polymer molding whose

final product can be delayed until after the protective film was taken off because one would have been motivated to solve the problem of eliminating defects in the resultant product.

15. In claim 10, Koniger does not explicitly teach wherein the protective sheet (S) is constructed from at least one core layer (KNS) made of at least one homopolymer or copolymer and from at least one further layer selected from the group consisting of adhesive layers (KS) and antiblocking layers (AS).

t. However, Otaki discloses wherein the protective sheet (S) is constructed from at least one core layer (KNS) made of at least one homopolymer or copolymer and from at least one further layer selected from the group consisting of adhesive layers (KS) and antiblocking layers (AS). (See column 10 line 36 to column 11 line 30, disclosing example 1 which discloses that the protective film (part number 6 in figure 1) has multiple layers. More specifically the protective film has an adhesive layer and a release layer (antiblocking layer). Core layers are homopolymers and copolymers.)

u. Koniger and Otaki are analogous art because they solve the similar problem of protecting a laminate sheet from post processing harm by adding a protective sheet to the outer layer. At the time of invention, it would have been obvious to the applicant being one of ordinary skill in the art, having the teachings of Koniger and Otaki before him or her, to modify the teachings of Koniger to include the teachings of Otaki for the benefit of creating a protective layer that is capable of bonding to the outer layer of the laminate sheet any

preventing any unwanted curing/damage on the outer surface. (See Column 1, lines 25-30—disclosing that the multi layer laminate (hologram) has many defects when they are stacked or pressed on top of one another during storage.) The motivation for doing so would have been to delay the defects by adding a protective layer that comes off prior to use. The adhesive layers and antiblocking layers allow the protective film to be easily taken off from the laminate. Therefore, it would have been obvious to combine Koniger and Otaki to make a polymer molding whose final product can be delayed until after the protective film was taken off because one would have been motivated to solve the problem of eliminating defects in the resultant product.

16. In claim 11, Koniger does not explicitly teach wherein the homopolymers and copolymers of the core layer (KNS) are selected from the group consisting of polyethylene, polypropylene, ethylene copolymers, propylene copolymers, and ethylene-propylene copolymers.

v. However, Otaki discloses wherein the homopolymers and copolymers of the core layer (KNS) are selected from the group consisting of polyethylene, polypropylene, ethylene copolymers, propylene copolymers, and ethylene-propylene copolymers. (See column 10 line 36 to column 11 line 30, disclosing example 1 which discloses that the protective film (part number 6 in figure 1) has multiple layers. Specifically disclosing polyethylene and PET.)

- w. Koniger and Otaki are analogous art because they solve the similar problem of protecting a laminate sheet from post processing harm by adding a protective sheet to the outer layer. At the time of invention, it would have been obvious to the applicant being one of ordinary skill in the art, having the teachings of Koniger and Otaki before him or her, to modify the teachings of Koniger to include the teachings of Otaki for the benefit of creating a protective layer that is capable of bonding to the outer layer of the laminate sheet any preventing any unwanted curing/damage on the outer surface.**(See Column 1, lines 25-30—disclosing that the multi layer laminate (hologram) has many defects when they are stacked or pressed on top of one another during storage.)** The motivation for doing so would have been to delay the defects by adding a protective layer that comes off prior to use. Therefore, it would have been obvious to combine Koniger and Otaki to make a polymer molding whose final product can be delayed until after the protective film was taken off because one would have been motivated to solve the problem of eliminating defects in the resultant product.
6. Regarding claim 22, Koniger teaches a process for producing polymer moldings (M/T/B) with functional surfaces (O) for which (I) a coating (B) is produced on a thermoplastic support sheet (T) by a process comprising (I.1) coating one surface (T.1) of (T) with at least one pigmented coating material (B.1) **(See column 4 line 45 to column 5 line 45, disclosing the addition of a coloring layer (pigment) to the substrate (support sheet.)** and (I.2) coating the resulting film (B.1) with at least one

chemically curable coating material (B.2) (See column 4 line 45 to column 5 line 45, disclosing the addition of an outer layer which is radiation curable. Also see column 1, lines 50-67 disclosing the addition of an outer layer that is radiation curable.) To give the film (B.2) following its curing a transparent coating (B.2) (See Column 5 lines 32-35, disclosing that the outer layer is transparent.). The coating (B) being covered at least temporarily with a protective sheet (S) (See column 5, lines 33-38, disclosing covering the sheet with a protective layer. This protective sheet allows the curing process to be delayed.) Wherein the thickness of the protective sheet (S) is from 10 to 100 μm . (See column 5, lines 34-37—disclosing that the protective sheet is between 50 and 100 μm .)

- a. Koniger does not expressly teach wherein:
 - i. (1) The protective sheet (S) is constructed from a plurality of layers.
 - ii. (2) The protective sheet (S) is constructed from at least one core layer (KNS) made of at least one homopolymer or copolymer and from at least one further layer selected from the group consisting of adhesive layers (KS) and antiblocking layers (AS).
 - iii. (3) The homopolymers and copolymers of the core layer (KNS) are selected from the group consisting of polyethylene, polypropylene, ethylene copolymers, propylene copolymers, and ethylene-propylene copolymers.
 - iv. (4) Wherein the protective sheet has the following properties
 - (1) Storage Modulus of 10^7 - 10^8

- (2) Elongation of Break at 400-900%
 - (3) Transmittance greater than 70%
 - (4) Hardness of $<.02$ GPa at 23C
 - (5) Roughness of less than 25 nm per 50 micrometers squared.
- b. However, APA teaches that GH-X 527 was known prior to the invention and Schoeppel teaches that GH-X series releasable protective sheets are known in the art to be used in application in which a protective sheet can be applied and removed at a subsequent time period. **(See paragraph 0132 and 0078).**
- c. It would have been obvious to one having the ordinary skill in the art to alter the teachings of Koniger to include the teachings of APA/Schoeppel since it is well known in the art that GHX series protective sheets are useable as protective films and are among those films that one having the ordinary skill in the art would look to in finding the most effective protective sheet.
- d. Therefore, the use of GH-X as a protective sheet is known and would have been among the class of materials used to make a suitable protective sheet for a polymer molding. As GH-X 527 is known for use as a releasable protective sheet and has the properties claimed by applicant.
- e. Moreover, Otaki teaches the materials used to make a protective sheet.
 - v. Otaki discloses wherein the protective sheet (S) is constructed from a plurality of layers. **(See column 10 line 36 to column 11 line 30, disclosing example 1 which discloses that the protective film (part number 6 in figure 1) has multiple layers. More specifically the**

**protective film has an adhesive layer and a release layer
(antiblocking layer).)**

vi. Otaki discloses wherein the protective sheet (S) is constructed from at least one core layer (KNS) made of at least one homopolymer or copolymer and from at least one further layer selected from the group consisting of adhesive layers (KS) and antiblocking layers (AS). **(See column 10 line 36 to column 11 line 30, disclosing example 1 which discloses that the protective film (part number 6 in figure 1) has multiple layers. More specifically the protective film has an adhesive layer and a release layer (antiblocking layer). Core layers are homopolymers and copolymers.)**

vii. Otaki discloses wherein the homopolymers and copolymers of the core layer (KNS) are selected from the group consisting of polyethylene, polypropylene, ethylene copolymers, propylene copolymers, and ethylene-propylene copolymers. **(See column 10 line 36 to column 11 line 30, disclosing example 1 which discloses that the protective film (part number 6 in figure 1) has multiple layers. Specifically disclosing polyethylene and PET.)**

17. Koniger and Otaki are analogous art because they solve the similar problem of protecting a laminate sheet from post processing harm by adding a protective sheet to the outer layer. At the time of invention, it would have been obvious to the applicant being one of ordinary skill in the art, having the teachings of Koniger and Otaki before

him or her, to modify the teachings of Koniger to include the teachings of Otaki for the benefit of creating a protective layer that is capable of bonding to the outer layer of the laminate sheet any preventing any unwanted curing/damage on the outer surface. (See Column 1, lines 25-30—disclosing that the multi layer laminate (hologram) has many defects when they are stacked or pressed on top of one another during storage.) The motivation for doing so would have been to delay the defects by adding a protective layer that comes off prior to use. Therefore, it would have been obvious to combine Koniger and Otaki to make a polymer molding whose final product can be delayed until after the protective film was taken off because one would have been motivated to solve the problem of eliminating defects in the resultant product.

18. Regarding claim 23, Koniger teaches wherein the polymer molding has functional surfaces and is used for coating car components. (See abstract and column 7 lines 20-33). Koniger also teaches wherein the thickness of the protective sheet (S) is from 50 to 100 μm . (See column 5, lines 34-37—disclosing that the protective sheet is between 50 and 100 μm .)

- x. Koniger does not teach:
 - v. (1) The protective sheet (S) is constructed from a plurality of layers.
 - vi. (2) The protective sheet (S) is constructed from at least one core layer (KNS) made of at least one homopolymer or copolymer and from at least one further layer selected from the group consisting of adhesive layers (KS) and antiblocking layers (AS).

- vii. (3) The homopolymers and copolymers of the core layer (KNS) are selected from the group consisting of polyethylene, polypropylene, ethylene copolymers, propylene copolymers, and ethylene-propylene copolymers.
- viii. (4) Wherein the protective sheet has the following properties
 - (3) Storage Modulus of 10^7 - 10^8
 - (4) Elongation of Break at 400-900%
 - (5) Transmittance greater than 70%
 - (6) Hardness of $<.02$ GPa at 23C
 - (7) Roughness of less than 25 nm per 50 micrometers squared.
- f. However, APA teaches that GH-X 527 was known prior to the invention and Schoeppel teaches that GH-X series releasable protective sheets are known in the art to be used in application in which a protective sheet can be applied and removed at a subsequent time period. **(See paragraph 0132 and 0078).**
- g. It would have been obvious to one having the ordinary skill in the art to alter the teachings of Koniger to include the teachings of APA/Schoeppel since it is well known in the art that GHX series protective sheets are useable as protective films and are among those films that one having the ordinary skill in the art would look to in finding the most effective protective sheet.
- h. Therefore, the use of GH-X as a protective sheet is known and would have been among the class of materials used to make a suitable protective sheet

for a polymer molding. As GH-X 527 is known for use as a releasable protective sheet and has the properties claimed by applicant.

- i. Moreover, Otaki teaches the materials used to make a protective sheet.
 - viii. Otaki discloses wherein the protective sheet (S) is constructed from a plurality of layers. **(See column 10 line 36 to column 11 line 30, disclosing example 1 which discloses that the protective film (part number 6 in figure 1) has multiple layers. More specifically the protective film has an adhesive layer and a release layer (antiblocking layer).)**
 - ix. Otaki discloses wherein the protective sheet (S) is constructed from at least one core layer (KNS) made of at least one homopolymer or copolymer and from at least one further layer selected from the group consisting of adhesive layers (KS) and antiblocking layers (AS). **(See column 10 line 36 to column 11 line 30, disclosing example 1 which discloses that the protective film (part number 6 in figure 1) has multiple layers. More specifically the protective film has an adhesive layer and a release layer (antiblocking layer). Core layers are homopolymers and copolymers.)**
- x. Otaki discloses wherein the homopolymers and copolymers of the core layer (KNS) are selected from the group consisting of polyethylene, polypropylene, ethylene copolymers, propylene copolymers, and ethylene-propylene copolymers. **(See column 10 line 36 to column 11 line 30,**

disclosing example 1 which discloses that the protective film (part number 6 in figure 1) has multiple layers. Specifically disclosing polyethylene and PET.)

- y. Koniger and Otaki are analogous art because they solve the similar problem of protecting a laminate sheet from post processing harm by adding a protective sheet to the outer layer. At the time of invention, it would have been obvious to the applicant being one of ordinary skill in the art, having the teachings of Koniger and Otaki before him or her, to modify the teachings of Koniger to include the teachings of Otaki for the benefit of creating a protective layer that is capable of bonding to the outer layer of the laminate sheet any preventing any unwanted curing/damage on the outer surface. **(See Column 1, lines 25-30—disclosing that the multi layer laminate (hologram) has many defects when they are stacked or pressed on top of one another during storage.)** The motivation for doing so would have been to delay the defects by adding a protective layer that comes off prior to use. Therefore, it would have been obvious to combine Koniger and Otaki to make a polymer molding whose final product can be delayed until after the protective film was taken off because one would have been motivated to solve the problem of eliminating defects in the resultant product.
19. Regarding claims 24-25, Koniger does not expressly teach wherein the film (b2) is partly or fully cured after step 1 but before step 2 and then fully cured or after-cured after step 4.

- z. However, APA teaches wherein after the end of step I the radiation curable film can be finally cured. (See page 2 lines 6-9). APA also teaches that the film can be partly cured after the exit from the molding system. (See page 2 lines 1-3). And the film is then cured or after cured after step 4. (See page 2 lines 6-9).
- aa. It would have been obvious to one having the ordinary skill in the art to control the cure of the film prior to entry into the mold depending on the need to deform the film prior to mold entry. In Koniger a protective sheet is used to delay curing effects when the film is stored prior to a molding operation.

Response to Arguments

7. Applicant's arguments filed October 12, 2009 have been fully considered but they are not persuasive.
8. **Applicant Argument #1:**
- j. Applicant argues that supplying the trademark GH-X 527 and its properties is enough to enable one having the ordinary skill in the art to make and use the invention.
9. **Examiner Response #1:**
- k. The relationship between a trademark and the product it identifies is sometimes indefinite, uncertain, and arbitrary. The formula or characteristics of

the product may change from time to time and yet it may continue to be sold under the same trademark. In patent specifications, every element or ingredient of the product should be set forth in positive, exact, intelligible language, so that there will be no uncertainty as to what is meant. Arbitrary trademarks which are liable to mean different things at the pleasure of manufacturers do not constitute such language. Ex Parte Kattwinkle, 12 USPQ 11 (Bd. App. 1931).

I. When the applicant refers to materials, products or processes, etc. by their respective trade name or trademark in the specification, the examiner should require that a generic description be inserted in place of, or in addition to, a trade name or trademark. This is necessary since the owner of the product to which the trade name or trademark refers can change the product over time. Such future decisions are often outside the control of the applicant. If such a change occurred, the trade name or trademark could come to represent different things at different points in time with no way learning what the differences were. Whether the use of a trade name or trademark provides sufficient description and disclosure of the claimed invention must be decided on a case-by-case basis. Where the identification material or apparatus referred to by its trademark or trade name is introduced by amendment, the information must be restricted to the characteristics of the product known at the time the application was filed to avoid any question of new matter. *In re Metcalfe* , 410 F.2d 1378, 1382, 161 USPQ 789, 792 (CCPA 1969); and MPEP Section 608.01(v).

m. If the trademark has a fixed and definite meaning, it constitutes sufficient identification unless **some physical or chemical characteristic of the article or material is involved in the invention**. In that event, as also in those cases where the trademark has no fixed and definite meaning, identification by scientific or other explanatory language is necessary. *In re Gebauer-Fuelnegg*, 121 F.2d 505, 50 USPQ 125 (CCPA 1941).

n. *In this case, applicant's disclosed advantage of the invention is that the use of the protective sheet in question applies outstanding functional qualities to a polymer molding sheet. As applicant's inventiveness is tied to the specific protective sheet claimed the exact ingredients must be produced in order to adequately enable the public.*

xi. If applicant cannot define or identify the materials, an amendment defining the process of its manufacture may be permitted. See MPEP 608.01 (v).

xii. Furthermore, in applicant's remarks (see page 18 of 23), disclosing that their inventiveness of the invention is derived from the outstanding properties of the protective sheet. Essentially the sheet solved preexisting shortfalls in the technology. Applicant has stated that this sheet is non-obvious because one would have to investigate. Thus this is additional support that the specification is not enabling.

10. **Applicant Argument #2:**

o. Applicant argues that Koniger and APA does not teach applicant's process because the curing of the outside layer takes place preferably after the molding operation.

11. **Examiner Response #2:**

p. Koniger and APA both disclose the use of a protective sheet in order to protect against unintended curing. APA in step (IV) states that after molding the polymer molding sheet (MTB) can be uncured, part-cured, or fully-cured. **(See page 2 lines 1-3 of applicant's specification)**. Therefore, before the molding operation the polymer molding (MTB) must have been uncured, partly-cured, or fully cured. That is why APA discloses that after step I the part-cured product is fully cured. **(See page 2 lines 6-9 of applicant's specification)**.

12. **Applicant Argument #3:**

q. Applicant argues that the protective sheet claimed is non-obvious in view of the teachings of Koniger because Koniger only at best is a broad invitation to investigate films made of Polyethylene and PET.

13. **Examiner Response #3:**

r. However, the GH-X series brand protective films are already used in the art and taught by Schoepel. Schoepel teaches that GH-X series releasable protective sheets are known in the art to be used in application in which a protective sheet can be applied and removed at a subsequent time period. **(See paragraph 0132 and 0078)**.

- s. Therefore, one having the ordinary skill in the art would have sought to try a similar sheet as a protective sheet.

Conclusion

14. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to **AMJAD ABRAHAM** whose telephone number is (571)270-7058. The examiner can normally be reached on **Monday through Friday 8:00 AM to 5:00 PM Eastern Time**.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Phillip Tucker can be reached on (571) 272-1095. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

AAA

/Philip C Tucker/
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